



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

April 3, 1995

Steven L. Costa  
Project Manager  
CH2M Hill  
P.O. Box 12681  
Oakland, CA 94604-2681

Re: QA/QC Review of American Samoa Canneries' Effluent Chemistry Testing

Dear Steve:

Attached please find a review of the technical report on the chemical analysis of the canneries' effluent, October 1994 sampling, which was conducted by our Quality Assurance Management Section. We note that the review of the data found that pesticides, cyanide and VOCs were either not present or present in the effluent at levels not considered harmful to the environment. As a conservative measure, because the reviewer felt that data quality could have been more completely documented, it was recommended that historical quality control data from previous samplings be submitted, as well as another complete priority pollutant scan be conducted, prior to consideration of eliminating VOC testing.

Considering the nature of the effluent, conditions under which the sampling and shipping are conducted, and the insignificant levels of these constituents detected, we feel that tests for cyanide, pesticides, PCBs and VOCs can be eliminated in future samplings. As previously discussed with you, we are more concerned with the high levels of zinc and copper found in Samoa Packing's effluent and understand that further studies are underway to determine the sources and reduce the loadings. Thus, we will require continued testing for metals which have been detected in past samples: arsenic, cadmium, copper, lead, mercury, selenium, silver and zinc. Please note that we will require a complete priority scan results to be submitted with the canneries' next permit application.

The QA/QC review also found a number of discrepancies or inconsistencies in the reports which are noted in Comments 2-7. Please respond and/or note for future sampling and reports.

-2-

Should you have any questions, please call me at (415) 744-1594.

Sincerely,

  
Norman E. Lovelace  
Chief

Office of Pacific Islands (E-4)

Enclosure

cc: Jim Cox, Van Camp Seafood Company, Inc.  
Norman Wei, StarKist Seafood Company  
Michael Macready, VCS Samoa Packing Company  
Barry Mills, StarKist Samoa, Inc.  
Tony Tausaga, American Samoa EPA  
Sheila Wiegman, American Samoa EPA



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105-3901

*Recd 3/14/95  
Copy to Mike Lee*

March 8, 1995

MEMORANDUM

SUBJECT: Technical Memoranda for the Chemical Analysis of Effluent October 1994 Sampling for VCS Samoa Packing Co. and Starkist Samoa, American Samoa (EPA QAMS Document Control Numbers (DCNs) NPDS019095VSF1 and NPDS020095VSF1, respectively)

FROM: *Eugenia McNaughton*  
Eugenia McNaughton, Ph.D., Environmental Scientist  
Quality Assurance Management Section (QAMS), P-3-2

THROUGH: *Vance S. Fong*  
Vance S. Fong, P.E., Chief  
Quality Assurance Management Section

TO: Pat Young, American Samoa Program Manager  
Office of Pacific Island, E-4

As requested, the subject technical memoranda, Chemical Analysis of Effluent, October 1994 Sampling, prepared by CH2M Hill for VCS Somoa Packing Co. (VCS) and Starkist Samoa, Inc. (Starkist), and dated January 27, 1995, were reviewed. The review was based on information provided in 40 CFR Part 136, in the EPA memorandum dated January 17, 1995 and the response to EPA comments by CH2M Hill dated February 8, 1995.

The technical memoranda were reviewed to ascertain whether the deletion of volatile organic compounds (VOCs) analyses can be recommended as requested in the CH2M Hill letter of February 2, 1995. The memoranda were also reviewed for quality assurance/quality control (QA/QC) of methods and procedures. In addition to comments related to these issues, a number of discrepancies or inconsistencies were identified during the review of the memoranda, and are presented below.

Ms. Pat Young  
March 1, 1995

Although a review of the data indicates that pesticides, cyanide and VOCs are either not present or present in the effluent at levels that are not considered harmful to the environment, it is apparent that data quality could be more completely documented. QAMS recommends that the complete analysis be repeated for the next test event. At the same time, if the historical data could be presented with supporting QC data, a better informed decision could be made regarding the testing program.

#### Comments

1. Since positive results for bromoform, 2-butanone, acetone, toluene, and xylenes are reported in Table 3 of the memoranda, a more conservative approach should be taken in considering the elimination of VOC analyses for Starkist and VCS. Quality control data from the previous samplings should be reviewed before a recommendation to scale back or eliminate sampling and analysis for VOCs can be made.
2. The QA/QC procedures could not be fully evaluated due to the lack of relevant information in the memoranda. There are no statements regarding accuracy and precision in the reports. As the response to comments memorandum from CH2M Hill indicates, the 200 series methods for metals and EPA Method 625 for semivolatile organic compounds (SVOCs) employ tighter criteria for calibration verification than do SW-846 methods. It should be noted that while Table 1 indicates EPA 8270/625 for the analysis of SVOCs, the sample results reported in Attachment II for SVOCs indicate that Method 625 was followed. This discrepancy should be addressed in future reports.
3. Quality control data was lacking for the following analytes:
  - A. The VOC analysis data included the acceptable percent recoveries for surrogate compounds and acceptable results for method blank analysis. No information was provided concerning matrix spike (MS) or matrix spike duplicate (MSD) percent recoveries or relative percent difference (RPD).
  - B. The semi-volatile organic compounds (SVOCs) analysis report included the acceptable percent recoveries for surrogate compounds and acceptable results for a method blank analysis. No information was provided concerning percent recovery or RPD for MS/MSD analyses.

Ms. Pat Young  
March 1, 1995

C. The metals report included an acceptable method blank; however, percent recoveries for laboratory control sample (LCS) and matrix spike analyses, and the RPD for duplicate analysis were not reported.

D. The total recoverable phenol and cyanide analyses report contained no QC information. Method blank results, percent recoveries for LCS and matrix spike analyses, and the RPD for duplicate analysis were not reported.

4. [VCS Samoa Packing Co.; Table 3, Summary of VCS Samoa Packing Co. Effluent Chemistry Sample Results; Attachment II, Laboratory Data Report] Table 3 lists the total phenol result for the October 1994 sampling as 28 ug/L; however the analytical results for Inorganics in Water presented in Attachment II indicate a concentration of 0.28 mg/L, equivalent to 280 ug/L. It is recommended that the original laboratory report be reviewed to ascertain the correct concentration, and if necessary, Table 3 be revised to indicate 280 ug/L total phenol.
5. [VCS and Starkist Memoranda: Table 1, Effluent Sample Analyses and Handling Procedures; Attachment I, Chain of Custody Forms] Although both Tables 1 of the VCS and Starkist memoranda indicate that the samples for VOC analysis were collected in 40 mL vials and preserved by chilling to 4°C, the chain of custody forms indicate that these samples were also preserved with hydrochloric acid. If the samples were not acidified, the 7-day holding time established for benzene, ethylbenzene, and toluene was exceeded. If these samples are routinely acidified, Table 1 should indicate that fact.

In addition, although the CH2M Hill response to comments indicates that samples collected in February were collected without headspace, it is unclear whether the samples were acidified.

6. [VCS and Starkist: Table 1, Effluent Sample Analyses and Handling Procedures] Table 1 of the memoranda indicates that samples for phenol analysis are collected in a 500 mL plastic container. 40 CFR Part 136 and Methods for Chemical Analysis of Water and Wastes specify glass containers only.
7. [VCS and Starkist: Table 1, Effluent Sample Analyses and Handling Procedures; Attachment II, Laboratory Data Report, Analytical Results, Metals in Water]

Ms. Pat Young  
March 1, 1995

A. In both memoranda, Table 1 lists the analytical method for silver as EPA 7760, an atomic absorption (AA) direct aspiration method, while the analytical results for metals in water from attachment II indicates that silver was analyzed by EPA 6010, inductively coupled plasma (ICP) spectroscopy.

B. In the Starkist memorandum, Table 1 indicates selenium analysis by EPA 7740; however, the analytical results for selenium in attachment II indicate that selenium was analyzed by EPA 6010. In addition, the reporting detection limit for selenium for the Starkist effluent is 50 ug/L (a typical Method 6010 detection limit), while the reporting detection limit for the VCS effluent is 5 ug/L (a typical Method 7740 detection limit). The discrepancy regarding methods should be addressed in future reports. The laboratory report should be consulted as to which value is correct and the report revised accordingly.

Questions or comments regarding this review should be referred to Eugenia McNaughton, EPA QAMS, at (415) 744-1498.